Driving improved business outcomes for ADM services through *next-gen Quality Engineering*

Why a solid Quality Engineering strategy is needed for delivering business value

Capgemini

Delivering value to users through ADM

At a time when businesses need to be more agile to resolve business challenges, IT is changing. Next generation ADM services have realized the need to keep up with the business. To provide better business outcomes, including better customer experiences, revenue growth, and cost reductions, next-gen ADM services use newer operating models like DevOps, product orientated models, and modern technologies like generative AI (Gen AI) and internet of things (IoT) with quicker cloud adoption.

But this evolution of IT cannot come at the cost of stability. How can IT and ADM services exploit emerging tech without sacrificing reliability? Next-gen Quality Engineering can deliver reliability and stability while applications keep up with evolving technology.

The role of *next-gen Quality Engineering* in delivering better business outcomes

Business outcomes are more achievable when there is a solid strategy underpinning them. Quality engineering supports this strategy with a multi-faceted approach that keeps IT free from disruptions. This frees up organizations to focus on those outcomes rather than worry if their IT landscape is hindering their efforts. Some of the ways next-gen Quality Engineering does this are:

Business Assurance

A business assurance strategy has become an integral part of strategic business functions and is imperative to long-term success. It encompasses a systematic approach to determining business risks, including developing methodologies and approaches to ensure that business operation processes are aligned with business standards and objectives.

A testing strategy can drive improved business outcomes by embedding it in the ADM lifecycle, however, it must be aligned with business objectives to be effective. Value stream mapping (VSM) will help demonstrate the value of efficiencies through well-defined testing metrics. VSM can optimize continuous development by eliminating all forms of waste, including software defects and rework time.

Quality Orchestration through Agile and DevOps

Most organizations today have adopted agile principles, and DevOps is rapidly becoming the new operating model of ADM delivery. And so, instead of traditional testing skills, organizations are prioritizing development skills for quality engineers. This ensures excellent customer experience and business outcomes.

Quality assurance practices, such as automation of the test lifecycle, end-to-end testing across agile teams, flexible and easy provisioning of test environments and test data, service virtualization, and continuous integration/continuous development (CI/CD) are generally well leveraged in agile programs. Close collaboration ensures the smooth incorporation of quality engineering assets into the CI/CD pipeline. Modernizing the QE organization to empower individual agile teams to be self-sufficient is vital to successful integration.

Quality Engineering Lifecycle Automation & AI Enablement

Automating the QE lifecycle can deliver seamless results through accelerated development and delivery that adheres to quality benchmarks. Next-gen QE also focuses on automating test scripts and uses technology for a faster return on investment. The benefits are numerous, including risk reduction, improved test efficiency, higher reliability, and reduced live defects.

Automated QE is maturing with 77% of clients investing in AI solutions to drive the quality transformation agenda. However, concerns related to security, privacy, and biased outcomes need to be addressed. Most AI investments in QE are towards building and improving testing scope and environment, along with improving performance engineering. Next-gen technologies are used for data generation and synthesis, test automation, defect detection and analysis, supporting faster and more accurate business outcomes.

Cloud Quality Engineering

Quality ecosystems are evolving rapidly, with a decisive shift in cloud adoption for test environments and the emergence of site reliability engineering (SRE). Next-gen QE enables cloud teams to deliver and deploy at higher speeds, with higher quality. It also facilitates testing of the landing zone provisioned prior to cloud migrations and new implementations. Cloud QE also provides ready to use AI-based frameworks to deliver accelerated automated runs post migration of applications to the cloud. This reduces the risk of defects making it live.

Quality Engineering for emerging technologies

The interconnected product landscape brings a level of complexity never seen before. Demanding customer experiences, interoperability needs, regulatory pressures, constantly changing guidelines, and cyber threats warrant a much more rigorous testing focus. Quality will play a central role when these new technologies are implemented in real-world use cases, along with the impact that emerging technologies have on quality engineering practices. Hyper-personalization for unique user experiences necessitates exhaustive testing to validate all possible combinations, which is impossible to achieve.

Next-generation QE in Action:
Delivering transformative results

At Capgemini, our ADM clients are already seeing the value being generated because of next-gen QE implementation.

A French multinational vehicle manufacturer was managing a complex landscape of 2,500 applications and an internal resources freeze. They sought a testing services provider to guide the transition process. Capgemini provided QE consulting services, testing assessment tools, and made recommendations for the best way forward. The team focused on end-to-end business processes and migration testing, underpinned by AI-based QE with zero touch testing. The solution resulted in a savings of €1.7 million in 2022, with 30% automation coverage and 90% test effectiveness with implementation of defect prevention and improvement plans.

A European home gardening tools manufacturer needed to refresh their customer-facing application that enabled users to view the full catalog of items and documentation. Manual tasks were slowing the refresh down. To reduce time to market, the team upgraded a complex automation framework and improved the quality of test cases. New products added to the catalog increased from 25% to 80% due to automation of nearly all manual tasks. This resulted in less than 2% defect leakage, and 95% test coverage, including API tests integration with the app center, enabling end-to-end automation.

A global consultancy firm wanted to embark on an enterprise-wide digital transformation. They sought a quality assurance partner that would facilitate strong governance, processes, expertise, and innovation throughout the initiative. Capgemini used ADMnext solutions to deliver a unique, fit-for-use SMART QA platform powered by Cognitive QATM, which provides intelligent service cataloging, automation-led testing, and innovation-centric approaches. The solution delivered 35% savings due to pervasive automation with 5% quarter on quarter cost optimization and increased customer satisfaction.

Conclusion

In conclusion, while ADM service providers are bringing in newer technologies and operating models to help drive better business outcomes for clients, traditional Quality Engineering is not going to cut it. The embedding of next-generation Quality Engineering across the ADM lifecycle is a crucial element to the delivery of long-term business value to the organization.

For more information on how Capgemini can help embed next-generation Quality Engineering in your ADM services, contact us.

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About Capgemini

Capgemini is a global business and technology transformation partner, helping organizations to accelerate their dual transition to a digital and sustainable world, while creating tangible impact for enterprises and society. It is a responsible and diverse group of 340,000 team members in more than 50 countries. With its strong over 55-year heritage, Capgemini is trusted by its clients to unlock the value of technology to address the entire breadth of their business needs. It delivers end-to-end services and solutions leveraging strengths from strategy and design to engineering, all fueled by its market leading capabilities in AI, cloud and data, combined with its deep industry expertise and partner ecosystem. The Group reported 2023 global revenues of €22.5 billion.

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